

## 111.5 - Rock and Minerals (powder form)

Technical Contact: [robert.vocke@nist.gov](mailto:robert.vocke@nist.gov)

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	1d	70a	81a	88b	99a	165a	278	607	688	1413
Description	Limestone, Argillaceous	Feldspar, Potash	Glass Sand	Dolomitic Limestone	Feldspar, Soda	Glass Sand (Low Iron)	Obsidian Rock	Potassium Feldspar	Basalt Rock	Glass Sand (High Alumina)
Unit of Issue	(70 g)	(40 g)	(75 g)	(75 g)	(40 g)	(75 g)	(35 g)	(5 g)	(60 g)	(75 g)

(Concentrations are in mass fractions, in %, unless noted by an asterisk for mg/kg)

Al <sub>2</sub> O <sub>3</sub>	0.526	17.9	0.66	0.336	20.5	0.059	14.15		17.36	9.90
BaO	0.0033	0.02		CO <sub>2</sub> 46.37	0.26			Ba (1140*)		0.12
Be	(0.1)*									
C	11.50									
CaO	52.85	0.11		29.95	2.14		0.983		(12.17)	0.74
Cd	(0.3)*									
Ce	(4)*									
Cl	(130)*									
Cr <sub>2</sub> O <sub>3</sub>	0.0012		46*			(1*)	Cr (6.1*)		Cr 332*	
Cs	(0.4)*									
Dy	(0.6)*									
Er	(0.4)*									
Eu	(0.1)*									
F	(160)*									

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Fe <sub>2</sub> O <sub>3</sub> **	0.3191	0.075	0.082	0.277	0.065	0.012	2.04		10.35	0.24
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<b>Ga</b>	(1)*						
<b>Gd</b>	(0.5)*						
<b>Ho</b>	(0.1)*						
<b>La</b>	(4)*						
<b>MgO</b>	0.301	21.03	0.02	(0.23)	(8.4)	0.06	
<b>Mn</b>	0.0209	0.0160		MnO 0.052		0.167	
<b>Nb</b>	(0.7)*						
<b>Nd</b>	(3)*						
<b>Ni</b>	(4)*			3.6*			
<b>P<sub>2</sub>O<sub>5</sub></b>	0.0413	0.0044	0.02	0.036		0.134	
<b>Pr</b>	(0.6)*						
<b>K<sub>2</sub>O</b>	0.1358	11.8	0.1030	5.2	4.16	0.187	3.94
<b>Rb<sub>2</sub>O</b>	(Rb 6)*	0.06		Rb 127.5*	Rb 523.96*	Rb 1.91*	
<b>S</b>	0.1028						

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<b>SiO<sub>2</sub></b>	4.080	67.12		1.13	65.2		73.05		48.4	82.77
<b>Sm</b>	(0.5)*									
<b>Sn</b>	(1)*									
<b>Na<sub>2</sub>O</b>	0.0109	2.55		0.0290	6.2		4.84		2.15	1.75
<b>SrO</b>	0.0303			0.0076			Sr 63.5*	Sr 65.485*	Sr 169.2*	
<b>Tb</b>	(0.09)*									
<b>Th</b>	(0.5)*					12.4*				
<b>TiO<sub>2</sub></b>	0.0306	0.01	0.12	(0.016)	0.007	0.011	0.245		1.17	0.11
<b>U</b>	(1)*					4.58*				

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V	(10)*
Y	(5)*
Yb	(0.3)*
ZnO	0.0022
Loss on Ignition	41.57      0.40      (46.98)      0.26
ZrO <sub>2</sub>	0.034      0.006

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Cu	5.9*
FeO**	1.36      7.64
Pb	16.4*
Ti	0.54*
<sup>87</sup> Sr/ <sup>86</sup> Sr	1.20039

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